From:	Edward Pruitt
To:	Pruitt, Scott
Subject:	Fwd: AgTech and the Environment
Date:	Thursday, July 05, 2018 8:53:14 PM
Attachments:	AgTech Broadband White Paper (00118754xC0CB4).docx Farm Bill Funding White Paper (00119290xC0CB4).docx

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Begin forwarded message:

From: Roger Royse <rroyse@rroyselaw.com>
Date: May 7, 2017 at 11:54:29 AM EDT
To: 'Scott Pruitt(b) (6)
Cc: Amanda Ruiz <aruiz@rroyselaw.com>, Millan Hupp
(b) (6)
Subject: AgTech and the Environment

Administrator Pruitt,

I founded a group focused on promoting technology in agriculture (www.royseagtech.com). Attached are two papers that I will be discussing with Congressmen this week in Washington.

I believe that tech can go a long way in protecting the environment and resolving conflicts with the agriculture industry. As you may recall, I am from North Dakota so I am interested in preserving the family farm while reducing environmental impact without having to resort to over-regulation.

If you or your staff have a few minutes this week, I would love to share my thoughts.

Thanks

The content image001.jpg of type has been blocked.

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From: Scott Pruitt (b) (6)
Sent: Friday, August 26, 2016 1:59 PM
To: Roger Royse
Subject: Re: Great to meet you

Good to hear. I will be back in your area the week of the 19th of Sept, I believe, so any in person follow up is a possibility then. Also I will be in town for various meetings on the political front and would love to have a member of my political team brief you and provide some more info about our meetings if that works for you.

Sent from my iPhone

21st Century Agriculture Technology & Funding Rural Broadband Infrastructure

By Roger Royse, and Allison Kroeker

Introduction

Broadband-enabled enterprises include health care, education, job training, public safety, and technology. Broadband is the key to adoption of 21st Century Agriculture Technology ("Ag Tech"). Due to the accelerating development of Ag Tech, it is the new rural driver for broadband utilization. Large telecommunications companies naturally invest in profitable urban infrastructure, however, and are not interested in cabling sparsely populated rural areas. Although 96% of California's population is urban, 95% of the state's geography is rural. We cannot leave out 95% of the state from broadband coverage.

Rural Broadband Infrastructure

In the Ag Tech context, broadband refers to any high-speed internet access that is always on and faster than traditional dial-up access. Broadband mapping describes geographically how internet access service from telephone and cable TV companies is available in terms of speed and price. Broadband maps are used to find "unserved" areas and "underserved" areas. The former areas contain no broadband infrastructure while the latter areas have access to broadband but not at fast speeds. Generally, rural internet users have fewer options and slower service. We need federal assistance to bring high-speed internet service to these rural areas.

Just as 19th century railroads and 20th century interstate highways played leading roles in American prosperity, high-speed internet is the factor that determines which rural communities, and which farms, will enjoy economic growth and prosperity in the 21st century. And just as it took public investment to bring transportation infrastructure to rural regions of the U.S., it will take public resource investment to bring high-speed internet to rural communities and farms. Funding rural broadband infrastructure is the single most promising public resource investment the federal government can make to provide unserved and underserved regions of the country with economic prosperity, opportunity, and technological innovation.

Agriculture Technology

Ag Tech represents the future of farming. It is broadband-enabled technology that increases the efficiency of farms. Ag Tech generally consists of marketplaces, farm management software, precision agriculture, sensors, smart irrigation, and drones and robotics.

- Marketplaces are e-commerce platforms that connect farmers directly to vendors and consumers.
- Farm management software allows farmers to efficiently manage their resources, such as crop production and farm animals.

- Precision agriculture focuses on predictive analytics to address allocation issues and make better decisions regarding energy, water, and pesticide efficiency.

- Sensors are smart devices that collect data and help farmers evaluate crop health, weather, and soil quality.

- Smart irrigation provides systems that help monitor and automate water usage for farms.

- Drone companies can also cater to agricultural needs, while robotics can provide intelligent farm machines that perform various farm functions.

Today, Ag Tech most commonly consists of the sensors that monitor, analyze, and respond to changing farm conditions. Other major areas of applied Ag Tech include maximizing yields, maximizing water efficiency, increasing energy efficiency, sustaining the environment, and ensuring food safety. The two latter applications are driven by state and federal regulations wherein Ag Tech offers a means of meeting the various statutory requirements. In fact, many of the sensors and other Ag Tech instruments have multiple benefits. For example, water irrigation technology saves money, water, power, and meets state groundwater regulations. Sensors monitoring chemical inputs also optimize farm efficiency while minimizing the farmer's footprint on the environment.

The adoption and application of this type of Ag Tech rests on the availability of the internet. In order to access the internet, Ag Tech requires rural broadband infrastructure. Broadband enables smart devices to compile, analyze, and transmit data to farmers that increases productivity, quality, and sustainability. In addition, Ag Tech is scalable to smaller farms and even facilitates alternative farming methods to permit farming in locations and settings that cannot support traditional farming. Reaping all of these benefits requires a massive rural infrastructure that can only be obtained through federal assistance and funding to ensure that broadband is not only accessible, but useful to farmers and conducive to technological innovation within rural communities.

Realizing Funding

One way to implement rural broadband infrastructure is through FirstNet. FirstNet is the largest amount of federal funding available for broadband infrastructure. Its purpose is to create a national system of emergency communications between all first responders. We propose that Congress ensure that FirstNet emergency communications are provided to rural regions of California and not limited to making urban population centers a priority like most broadband infrastructure initiatives.

Clearly, this would only assist Ag Tech if there is also a multiple use requirement for any FirstNet investment. In other words, a FirstNet broadband system needs to not only be available for rural regional use, but FirstNet resources would also have to be bundled with other broadband resources (regardless of source) to create a multi-benefit system. The implementation of rural broadband infrastructure under this model operates under the assumption that there are simply not enough public resources to build redundant single-use broadband systems.

Alternatively, or contemporaneously, the federal government may implement a program that assists and encourages state and local governments to invest in rural broadband infrastructure. Congress can realize such a program by offering states like California a match of federal resources. This way, from both federal and state perspectives, the public resources that are invested will be leveraged. Notably, any leveraged public resources under this program would need to be invested in the form of grants in order to actually benefit the unserved and underserved areas of California. Successful funding models include the Internet For All Now Act and the New York state broadband infrastructure.

The reason current federal programs offered by the U.S. Department of Agriculture ("USDA") do not work is because they provide loans and not grants. These loans typically take two years to acquire after initiating the application process. Instead of bringing 21st century Ag Tech to the farm fields, the current programs offer assistance only to those communities that can wait two years before confirming that a broadband-enabled investment opportunity is available and have the means to pay back any federal funds that are ultimately received. This is stifling the economic growth and prosperity otherwise available to rural communities. Thus, the facilitation of Ag Tech innovation through federal programs is in need of comprehensive reform.

Realizing Innovation and Prosperity

To facilitate innovation, any comprehensive reform should also consider adopting a program for funding proof-of-concept projects. Ag Tech is a hot bed of innovation and improvement where internet access acts as an entry point to the 21st century economy. From optimizing agriculture, to protecting the environment, and ultimately ensuring our own health and safety, we need to be investing in our future by funding proof-of-concept projects to support the creation of new Ag Tech and improvements to broadband infrastructure. The benefits of such funding extend to rural medicine, distance learning, transportation, public safety, direct market access, and even rural tourism and recreational activities.

We should also encourage federal funding and regular surveys of broadband signal available on farm fields to create a metric for the constraints imposed on Ag Tech by broadband service technology. While some Ag Tech does not require high bandwidth, this is due to Ag Tech attempting to adapt to the lack of high-speed internet in rural areas. It does NOT mean that Ag Tech does not need high-speed internet to be available on the farm fields. We need to have high bandwidth availability for farm fields and rural communities in order to fully realize the benefits of having rural broadband infrastructure.

Conclusion

AgTech continues to grow at an accelerating rate towards a $240 billion industry by 2050. It will enable farm production to meet the future doubling of global food demand. If we have rural broadband, the same internet platform used for farming in the fields can be used to increase the overall prosperity and quality of life in the U.S. and particularly in our nation's rural communities.

Specialty Agriculture and the Reallocation of Farm Bill Funding

By Roger Royse and Allison Kroeker

Introduction

Specialty crop producers, researchers, and farmworkers provide our nation with safe and nutritious food. That is an enormous responsibility and requires federal support. Federal support for specialty agriculture research and development not only increases economic prosperity on the farm fields but in every family's home. Federal funding provides all Americans with economic opportunities, technological innovation, and educational experiences, in addition to putting food on the table. Specialty agriculture must therefore be a permanent priority in the federal budget.

Specialty crops generally consist of plants used by people for food, medicinal purposes, and aesthetic gratification. They are defined by the USDA as "fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops (including floriculture)." The diversity of specialty crops and their variety of uses make the task of developing policy in this area particularly challenging. Federal funds can be used to support projects ranging from food safety compliance to distribution systems and marketing.

Federal funds can also provide scientific advances that enable our country to use the most efficient and environmentally sound agriculture technology in the world. Funding this research is imperative due to the industry's increasing reliance on science and technology to maintain profitable production. Likewise, labor dependency is an ongoing concern regarding specialty agriculture's profitability in the absence of labor saving technology. Thus, we propose that disproportionate funding for conventional agriculture be reallocated to specialty agriculture in the next farm bill so the specialty crop programs can continue to act as efficient safety nets and effective innovation initiatives.

Specialty Crop Provisions

Every five years or so, Congress passes a "farm bill" specific to American agriculture. The Agricultural Act of 2014, also known as the 2014 farm bill, put permanent programs in place to address the critical needs of the specialty crop industry and enhance the competitiveness of specialty crops. Realizing this goal requires the continuous reform of outdated agriculture policies that do not adequately address the realities of specialty agriculture, modern economies, or their labor challenges. Each year, we rely on our representatives to allocate federal resources to meet the needs of specialty crop producers and specialty agriculture technology on a budget that is realistic and fair to taxpayers.

Unfortunately, federal support for specialty crops still differs in significant ways from commodity crops. Since the 1930s, farm bills have focused on farm commodity program support for the staple, non-perishable, and generally storable commodities such as corn, soybeans, wheat, cotton, rice, and sugar.

Federal support for specialty crops is relatively recent and its funding is disproportionately small. Accordingly, policy still weighs commodity crops as being essential or more important than specialty crops. Although the 2014 farm bill provided permanent funding for specialty crops, the programs still account for a small share of total farm bill spending, well below spending levels for commodity crops.

Mandatory funding for the major commodity crops averages about $4.7 billion per year, compared to $773 million for specialty crops.[1] In addition, specialty crop producers do not benefit from the same types of federal commodity price and income support programs that benefit commodity crop producers. Specifically, the specialty crop programs do not provide benefits for individual produce growers directly, but rather for the specialty crop industry as a whole. While the provision of direct benefits and an increase in mandatory funding would give specialty crops equal footing with commodity crops, we instead propose a more efficient allocation of resources as part of next year's policy reform.

Specialty Crop Block Grant Program

The Specialty Crop Block Grant Program provides federal funding to "enhance the competitiveness of specialty crops." The 2014 farm bill provides $72.5 million for this program in 2017 and $85 million in all subsequent years. Examples of projects that enhance competitiveness include efforts to enhance food safety, sustainability, developing new and improved seed varieties, pest and disease control, increasing nutritional knowledge and consumption of specialty crops, reducing the costs of distribution systems, and helping businesses to comply with the requirements of the Food Safety Modernization Act.

Application forms are submitted to each state's department of agriculture which helps manage the competitive grant process. Each state consolidates the applications it receives from interested parties into a single plan to indicate how grant funds will be used. States are eligible to receive an amount that represents the proportion of the value of specialty crop production in the state in relation to the national value of specialty crop production. Specialty crop production is focused in California, Florida, Washington, Oregon, North Dakota, and Michigan.

A majority of specialty crop producers are considered specialized, which means that they receive at least half of their gross value of production from the sale of fruits and vegetables, tree nuts, or other specialty crops. Specialized farms account for 90-95% of the total value of U.S. specialty crop production and are concentrated in the Western states. These states do not have nearly as much representation as Midwestern states where commodity support programs receive substantial support. Specialty crops make up one-fourth of the value of U.S. crop production and receive less than one-fifth of the funding provided to commodity crops.[2] We ask that farm bill funding be increased for specialty crops through a proportionate reallocation from commodity programs based on the U.S. crop production statistics. This allocation is a fair and necessary adjustment to 21st century agriculture policy based on the modern economy as well as the demands of farm innovation and a shrinking labor force.

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[1] See CRS Report IF00014, The 2014 Farm Bill (Agricultural Act of 2014, P.L. 113-79).
[2] See CRS from USDA, 2012 Census of Agriculture (Table 2, Market Value of Agricultural Products Sold), https://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_1_US/st99_1_002_002.pdf.

Specialty Crop Research Initiative Program

The Specialty Crop Research Initiative Program addresses the critical needs of specialty agriculture by awarding grants to support an organization's research proposal. The 2014 farm bill set aside mandatory funding of $80 million each year for this program. Of that amount, $25 million is set aside for citrus disease research. The remaining funds support projects that address at least one of five legislated focus areas: (1) genetics; (2) pests and diseases; (3) efficiency and profitability; (4) innovation and mechanization; or (5) food safety.

Generally, these research grants are awarded to universities for standard research and extension projects to support problem-solving efforts. The next farm bill creates an excellent opportunity to make it easier for individuals and small businesses to apply for these grants, or even extend these funding opportunities to startups. Relaxing the program's eligibility requirements would not only facilitate technological innovation in the private sector but support American entrepreneurship and small business.

At the same time, it is imperative that federal policy promote co-innovation. A proactive approach to realizing innovation requires a networking platform to accelerate the exchange of ideas and information across industries. The three main industries involved in the development of agriculture technology are the academic research institutions, the technology startup industry, and the finance industry. Fostering co-innovation among industries provides a platform for entrepreneurs to learn about licensing intellectual property from the universities. Funding UC extensions cannot create new ventures without this bridge to entrepreneurship. Thus, we propose an expansion of the research initiative program's focus areas to consider additional projects for startup funding and co-innovation platforms.

Resolving Labor Challenges

Specialty agriculture has a completely different cost structure, and a completely different set of policy interests, than conventional agriculture. The latter's cost structure is based on land while the cost of specialty crops is based on labor. Nearly all specialty crops destined for the fresh market are hand harvested to ensure freshness and a pleasing appearance. Hand-harvesting accounts for 50% of specialty agriculture production costs, and continues to rise as the labor force shrinks. With the decline of labor availability and increasing labor costs, specialty crops are losing their price competitiveness in the world markets.

In the absence of labor saving technology, American specialty crop producers have no safety net. Domestic workers will not accept seasonal agricultural jobs in sufficient numbers and the H-2A visa program is currently too complex and costly to maintain profitability. Federal support is required to compete with cheap imports and modern labor challenges. Federal investment in agriculture technology is the single most promising use of farm bill funds to stabilize prices, reduce manual labor, and create permanent jobs with higher income for domestic workers. Thus, adequate funding for the research and development of agriculture technology is required to protect U.S. crop production and keep specialty crop producers in business.

Conclusion

Congress has made historic investments to support U.S. crop production and keep U.S. growers in business while ending unnecessary subsidies and programs. We can continue to support our nation's farmers and families by reforming federal agriculture policy in the next farm bill. The reallocation of commodity funds to meet the critical needs of specialty crop producers is a fair and necessary compromise to invest in our future and economic prosperity.